

PEARSON ISLAND EXPEDITION 1969†—11. CRUSTACEA: ISOPODA

by W. F. SEED*

Summary

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Eleven species of isopods, all sphaeromatids, are represented in a small collection from Pearson I. Of these species, two are too immature for specific identification, but belong to the genera *Exosphaeroma* and *Cymodopsis*. One new species, *Cilicacopsis floccosa*, is described and figured. The previously-known species are: *Cymodoce gaimardii*, *C. pubescens*, *C. unguiculata*, *Cilicaca latreillei*, *Cerceis acuticaudata*, *Huswellia anomala* and *H. cilicioides*.

Introduction

This paper discusses the isopod crustaceans collected during the Pearson I. expedition of 6-13 January, 1969, sponsored jointly by the Royal Society of South Australia and the Department of Fisheries and Fauna Conservation of South Australia. For discussion of collecting sites see Shepherd & Womersley (1971) and Watson (1973); R and S indicate rough-water and sheltered localities.

All specimens were recovered during the sorting of algal collections made by divers (S. A. Shepherd, J. E. Watson and J. Ottaway). This may account for the immaturity of much of the material, since larger, and presumably more vigorous, animals are often observed to escape the net during collection (S. A. Shepherd, pers. comm.). Nine species (including one new species) are identified, and two species are diagnosed to genus only.

The keys of Hale (1929), Hansen (1905) and Hurley (1961) were used to identify the genera; most of the species were determined from Hale's (1929) keys and species descriptions. Synonymies are not necessarily complete. I have followed Menzies (1962; see also Menzies & Frankenberg 1966) in giving only a brief diagnosis of the new species, supported by accurately drawn figures.

Use of the name Sphaeromatidae (rather than the more commonly-used Sphaeromidae) follows Schultz (1969) and Naylor (1972),

and anticipates a forthcoming paper by Hurley & Jansen (pers. comm.) in which the usage is discussed.

Specimens are deposited in the isopod collection of the National Museum of Victoria, Melbourne (NMV), but only the new species has been registered.

Tribe FLABELLIFERA Family SPHAEROMATIDAE Group HEMIBRANCHIATAE

Genus EXOSPHAEROMA Stebbing, 1900

Exosphaeroma sp.

Locality: Pearson I. (Station F at 65 m).

Material: One immature male, damaged (about 5 mm long). Penes are developing but appendix masculina is not yet distinct.

Remarks: More than thirty species have been placed in this genus, and the specimen differs from all of them in at least one point: the uropodal exopod is W-shaped at the distal end. Description of this species must await more suitable material.

Genus CYMODOCE Leach, 1813-14

Cymodoce gaimardii (Milne Edwards). Hansen, 1905: 121. Baker, 1926: 256, pl. 42, fig. 2. Hale, 1929: 286, fig. 284. Nierstrasz, 1931: 200. Naylor, 1966: 186, fig. 2.

Sphaeroma gaimardii Milne Edwards, 1840: 209.

* Department of Applied Biology, Royal Melbourne Institute of Technology, 124 J-a Trobe St., Melbourne, Vic. 3000.

† Other accounts of the geomorphology and biology of the Pearson Islands are given in Volume 95, Part 3 (1971) of the Transactions, as well as the present Part.

FIGS. 1-4

Localities: Australia (Milne Edwards 1840); Vic.: Port Phillip Bay (Baker 1926, Naylor 1966); Tas.: (Baker 1926); S. Aust.: Encounter Bay, Gulf St. Vincent (Baker 1926). *New record:* Pearson I. (Station F at 65 m).

Material: One female (11 mm long), immature, with no oostegites or eggs, and the mouthparts unmodified.

Remarks: The specimen agrees with the descriptions and figures of Baker (1926) and Naylor (1966), allowing for its being a juvenile. Comparison with these figures and with specimens collected from Western Port Bay reveals variation within the species in the sharpness of truncation of the uropodal endopods, in the shape of the joint between telsonic and pleonic tagmata, and in the shape and degree of exposure of the anterior suture on the pleon (Figs. 1-4).

Cymodoce pubescens (Milne Edwards). Hansen, 1905: 122. Stebbing, 1910: 104. Nierstrasz, 1931: 198. Naylor, 1966: 188, fig. 3.

Sphaeroma pubescens Milne Edwards, 1840: 209.

Paracilicæa (?) *pubescens* (Milne Edwards), Baker, 1926: 262, pl. 43, figs. 8-11; pl. 48, fig. 1. Hale, 1929: 290.

Localities: Australia (Milne Edwards 1840); N.S.W.: Port Jackson, Port Stephens (Haswell 1882); Vic.: Port Phillip Bay (Naylor 1966). Zanzibar: Wasin (Stebbing 1910). Indonesia: Sailus Besar, Paternoster I. (Nierstrasz 1931). *New record:* Pearson I. (Station F at 65 m).

Material: One male (8 mm long) and one female 7.5 mm long), both immature; the

appendix masculina of the male is not free; the female has no oostegites or eggs, and its mouthparts are unmodified.

Remarks: Specimens agree with published descriptions of this species. It should be noted that, although Hale (1929) has followed Baker in referring this species to *Paracilicæa* in the text, his key agrees with those of Hansen (1905) and Hurley (1961), the species keying out to *Cymodoce* in all three.

Cymodoce unguiculata Barnard, 1914: 394, pl. 34B. Baker, 1926: 259. Hale, 1929: 285.

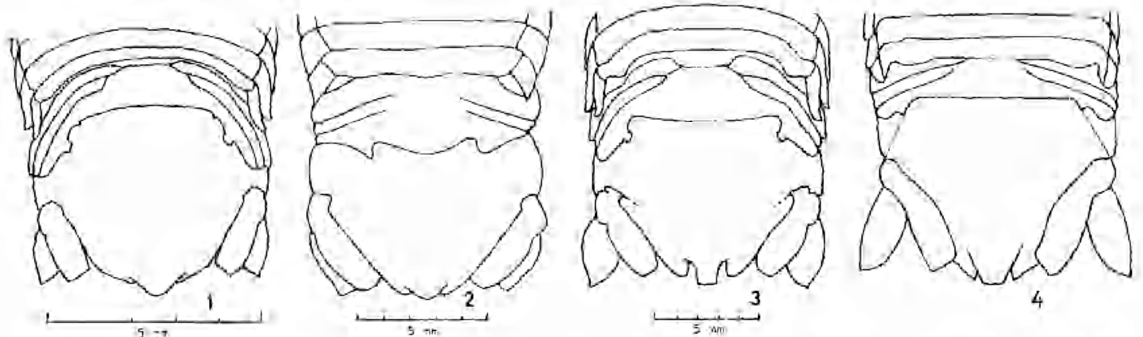
Localities: South Africa (Barnard 1914); S. Aust.: Beachport (Baker 1926). *New record:* Pearson I. (Station F at 65 m).

Material: Two females (6 and 9 mm long), both immature, without eggs or modification of the mouthparts, but with four pairs of oostegite buds in the larger specimen.

Remarks: The specimens lack the marginal fringe of setae referred to by both Hale and Barnard; the bosses on the telson are much less prominent than Barnard's figures indicate (by inference from his description, and directly from Hale's, they are the same size in adults of both sexes); and the hooked uropodal exopod differs slightly in both specimens from Barnard's figures. The uropodal endopod, however, is slightly excavate distally, as shown in Barnard's figure of the female, and in other respects the specimens agree well with descriptions of *C. unguiculata*.

Genus CILICÆA Leach, 1818

Cilicæa curtispina Haswell, 1881b: 185, pl. 3, fig. 4. Stebbing, 1905: 36. Baker, 1908: 142, pl. 4, figs. 12-17, pl. 5, figs. 1-8; 1928: pl. 6, figs. 8-9. Hale, 1929: 280,



Figs. 1-4. *Cymodoce guimardii*, posterior region. Fig. 1.—Female (11 mm long) from Pearson I. Fig. 2.—Female (13.5 mm long) from Port Phillip (after Naylor). Fig. 3.—Male (24 mm long) from Western Port. Fig. 4.—After Baker: "Probably a young male"; locality and scale not indicated.

fig. 280. Nierstrasz, 1931: 205. Naylor, 1966: 189.

Naesa antennalis White, 1847: 105; *nomen nudum*.

Cilicæa antennalis White. Miers, 1884: 310.

Cilicæa antennalis Miers. Stebbing, 1905: 35. Nierstrasz, 1931: 205.

Localities: W. Aust.: Swan River (White 1847, Miers 1884) Vic.: Port Phillip (Haswell 1881b, 1882; Naylor 1966); "very common in shallow water around [southern Australian] coasts" (Hale 1929). *New record:* Pearson I. (R at 25 m).

Material: One adult male (14 mm long).

Remarks: The specimen agrees with Baker's (1908) and Hale's (1929) descriptions, except that the uropodal exopods are rounded apically, rather than slightly bifid. No description refers to the pads of short setae lining the incurved inner surface of the distal part of these exopods and of the median projection. This feature, together with the shape and arrangement of these three projections, seems to imply some definite function, such as clasping the female during mating, or clasping the anterior region when the animal is rolled.

Cilicæa latreillei Leach, 1818: 342. Miers, 1884: 308. Stebbing, 1905: 36, pl. 8. Hale, 1929: 282, fig. 282. Nierstrasz, 1931: 204, figs. 92-96. Naylor, 1966: 190, fig. 3.

Naesa latreillei Milne Edwards, 1840: 218.

Cilicæa crassicaudata Haswell, 1881a: 475, pl. 17, fig. 3.

Localities: There are numerous records from South Africa, Ceylon, East Indies, Australia and New Zealand (see Nierstrasz 1931, Naylor 1966). *New record:* Pearson I. (R at 20-25 m).

Material: One specimen, apparently female and very young (6 mm).

Remarks: The females of *Cymodoce pubescens* and *Cilicæa latreillei*, both of which have bifid uropodal exopods and are otherwise very similar, have caused much taxonomic confusion. The Pearson I. specimen lacks the characteristic scale-setae of *Cymodoce pubescens*, being fairly liberally covered with stiff, erect setae; it agrees well with Naylor's (1966) figure of a female of *Cilicæa latreillei*, although it has not the well-defined anterior boss of the Port Phillip (and Western Port) specimens, and the posterior tip of the uropodal exopod is forked.

These could well be juvenile features: comparison with a series of specimens from Western Port leaves little doubt that it is a very young female of *Cilicæa latreillei*.

It must be noted that the male figured by Nierstrasz, despite his statement that "Die Tiere (Figs. 92-96) stimmen gut mit den Beschreibungen von Miers [1884], Stebbing [1905], und Barnard [1914] überein", clearly belongs to another species, and what he has labelled as the female of *C. latreillei* is not a female of that species, although it could be a young male. Reliable figures will be found in the papers by Barnard, Naylor and Stebbing; they agree with all Victorian specimens available.

Genus *CILICÆOPSIS* Hansen, 1905

Hansen established this genus by designating *Cilicæa granulata* Whitelegge (1902) as the type, and his key to genera shows the diagnostic characters to be: "Abdominal notch semicircular, without any vestige of mesial lobe. Endp. of urp. rudimentary in the male". This seems to have been broadly interpreted as to both the semicircular nature of the abdominal notch and the rudimentary nature of the endopod. Some of the species included in this genus appear to necessitate a new generic diagnosis, but it will be best if modification of the diagnosis is left until this and the several closely-related genera are reviewed.

Taking a broad view of the meaning of semicircular, as Baker (1926) has done, the new species described below conforms with Hansen's diagnosis.

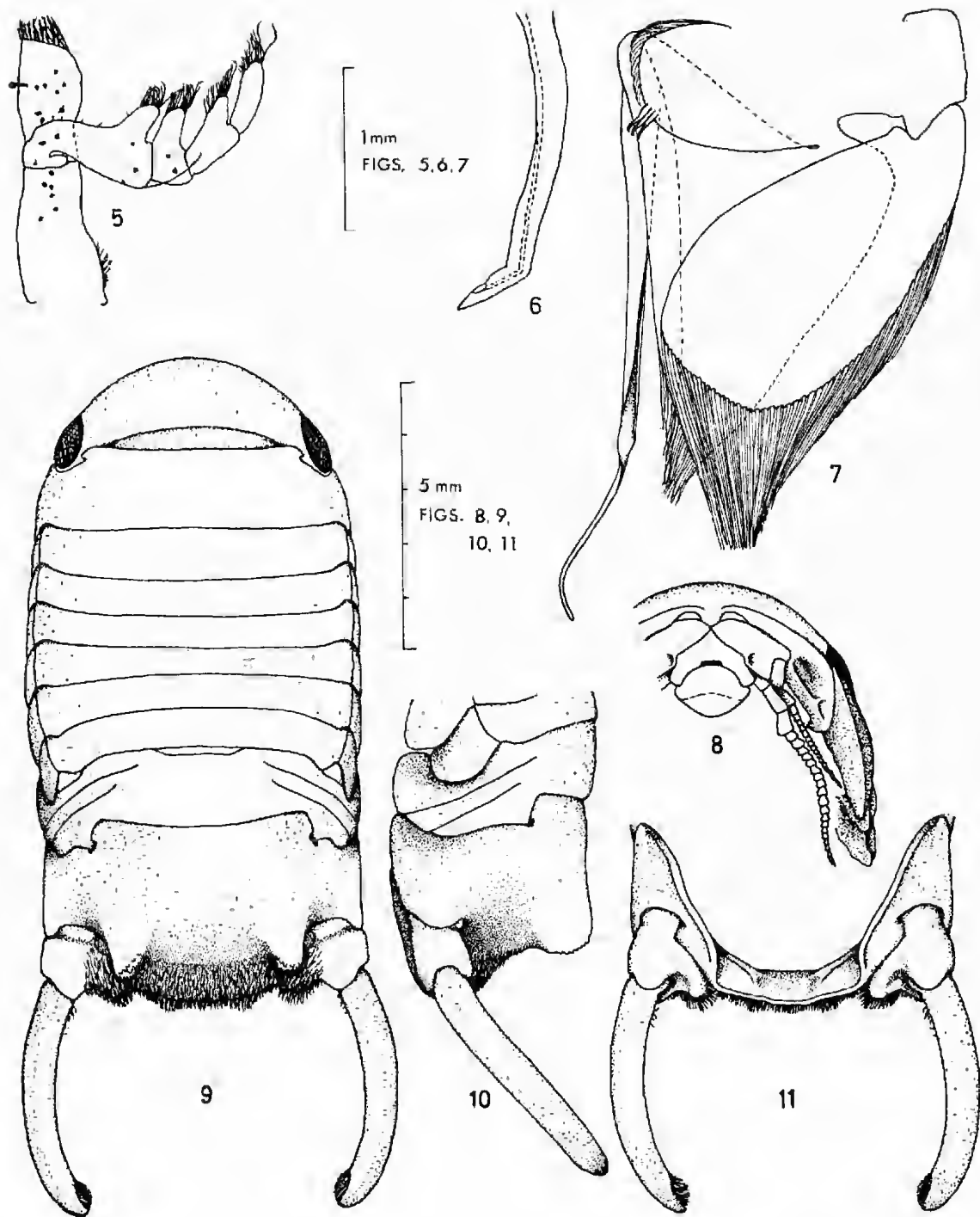
***Cilicæopsis floccosa* n.sp.**

Locality: Pearson I. (R at 25 m: "From algae on horizontal face").

Material: One specimen, the holotype male (median length 12.5 mm, total length 16 mm, width 6.1 mm), apparently adult, *S. A. Shepherd*, 10.i.1969 (NMV, J-249).

FIGS. 5-11

Diagnosis: *Cilicæopsis* with slender, curved uropodal exopods bearing a furry tuft of setae on the median aspect of the distal end. Similar setae cover the dorsal surface of the endopods and of the pleotelson below and behind the two large tuberculate bosses; surface elsewhere glabrous. Appendix masculina long, with a curved narrow tip extending well beyond the setae of the second pleopod; inner edge of the endopod grooved behind to accommodate the upper part of the appendix. Penes long, tapering to a point, laterally compressed and kinked backward near the end. Abdominal



Figs. 5-11. *Cilicæopsis floccosa*. All figures from the holotype male. Fig. 5.—Left maxillipede. Fig. 6.—Left penis, from the right side. Fig. 7.—Left second pleopod and appendix masculina. Fig. 8.—Head, ventral view. Fig. 9.—Whole animal, dorsal view. Fig. 10.—Posterior region, from the left side. Fig. 11.—Pleotelson and uropods, ventral view.

notch wide and shallow, not visible from above. Epistome pointed, much shorter than broad.

Genus CYMODOPSIS Baker, 1926

Cymodopsis sp.

Locality: Pearson I. (R at 25 m, from algae on horizontal face).

Material: One immature male (8 mm long), with very rudimentary penes and appendix masculina not yet apparent.

Remarks: The specimen superficially resembles Baker's (1926) figure of *Cymodopsis crassa* in general form and in having two large conical projections on the pleotelson. In lateral view these are seen to be slightly undercut below, forming a postero-dorsal point on each, whereas the corresponding part of *C. crassa* appears, in Baker's figure, to be smoothly rounded and to run down to the telson as a straight ridge. Two other conspicuous differences are that the epistome is very much shorter than broad (and different from that of any described species), and that the uropodal exopod is relatively large, plate-like, and reaches to the end of the endopod in the closed position.

It seems clear that this is a new species, but no satisfactory description can be given in the absence of an adult male.

Group EUBRANCHIATAE

Genus CERCEIS Milne Edwards, 1840

Cerceis acuticaudata (Haswell), Hansen, 1905: 127, Hale, 1929: 300. Nierstrasz, 1931: 216.

Sphaeroma (?) *acuticaudata* Haswell, 1881b: 191, pl. 3, Fig. 9.

Localities: Vic.: Griffith's Point, Port Phillip (Haswell 1881b); "This is a common species" (Hale 1929). *New record:* Pearson I. (R at 25 m, from algae on horizontal face, R at 20–25 m).

Material: Three females (8.5–9.3 mm long), all immature and without oostegites or eggs.

Remarks: Specimens agree with descriptions and figures of *Cerceis acuticaudata* except that they lack the spines on the uropods and the spine on the pleotelson is represented only by

a smooth median boss. Comparison with a series of specimens from Western Port shows that the growth of these spines is both allometric and variable.

Genus HASWELLIA Miers, 1884

Haswellia anomala (Haswell), Baker, 1926: 273, pl. 48, figs. 8–9. Naylor, 1966: 192. *Sphaeroma* (?) *anomala* Haswell, 1881a: 473, pl. 16, fig. 4.

Zuzara emarginata Haswell, 1881 b: 188, pl. 3, fig. 5.

Haswellia emarginata (Haswell), Hansen 1905: 127. Hale, 1929: 304, fig. 304.

Localities: N.S.W.: Port Jackson (Haswell 1881a); Vic.: Western Port (Haswell 1881b), Port Phillip (Naylor 1966); S. Aust.: St. Vincent Gulf (Hale 1929). *New record:* Pearson I. (R at 25 m).

Material: Seven females (5.8–8.6 mm long), all immature and without eggs, oostegites, or modification of the mouthparts.

Remarks: The females of this species are very similar to those of *Cerceis trispinosa*. The uropodal exopods provide a convenient diagnostic feature; in *C. trispinosa* females they are longer than the endopods, while in *H. anomala* they are both slightly shorter than the endopods, and conspicuously toothed on the distal edge. Comparison with a series of *H. anomala* from Western Port confirms the identity of the Pearson I. specimens. The largest of them have the hind margin of the seventh thoracic tergite produced in the centre (although not as far as in Haswell's figure of *Sphaeroma* (?) *anomala*), a feature which supports Naylor's view that *S. (?) anomala* was the female of this species and hence also supports his adoption of the specific epithet *anomala*.

Haswellia cilicioides Baker, 1908: 158, pl. 10, figs. 12–23. Hale, 1929: 304, fig. 305.

Localities: S. Aust.: St. Vincent Gulf (Baker 1908. Hale 1929). *New record:* Pearson I. (S at 30 m).

Material: One adult male (9 mm long),

Remarks: The specimen agrees with Baker's (1908) and Hale's (1929) descriptions and figures, except for slight differences in the shape of the uropodal endopods, and in the shape of the process of the last thoracic segment when viewed from above.

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